CLAIMS

1. An actuating apparatus for operating a drive, steering or retardation means of a motor vehicle, comprising a signal converter (26; 60) which produces a control signal dependent on the actuating travel, characterized in that the signal converter (26; 60) comprises an elastic and conductive shaped body having a first and a second outside surface which are arranged at a spacing relative to each other, which is provided with a first electrical contact region (29; 62) which extends over the first outside surface of the shaped body and which is galvanically conductively connected on the one hand to the shaped body and on the other hand to a first feed line (30; 64) and a second electrical contact region (29'; 63) which extends along the second surface of the shaped body and is galvanically conductively connected on the one hand to the shaped body and on the other hand to a second feed line (30'; 65), wherein the electrical resistance of the shaped body between the two contact regions (29, 29'; 62, 63) is dependent on the spacing of the two contact regions (29, 29'; 62, 63) and that connected downstream of the signal converter (26; 60) is a measurement transducer (32) whose inputs are connected by way of the feed lines (30, 30'; 64, 65) to the first and second contact regions (29, 29'; 62, 63) and at whose output a control signal (44) can be taken off, which is dependent on the electrical resistance of the shaped body.

2. An actuating apparatus as set forth in claim 1 characterized in that the measurement transducer (32) has a voltage source (33) which applies a substantially constant electrical voltage between the first and second contact regions (29, 29'), or that the measurement transducer (32) includes a current source which produces a substantially constant current between the first and second electrical contact regions (29, 29').

3. An actuating apparatus as set forth in claim 1 characterized in that the measurement transducer (32) includes an input amplifier (36) which is connected (30; 30') at the input side to the feed lines.

4. An actuating apparatus as set forth in claim 1 characterized in that the measurement transducer (32) has an analog/digital converter (37) which receives the analog parameter (35) as an input signal and digitizes it.

5. An actuating apparatus as set forth in claim 1 characterized in that the measurement transducer (32) has a function generator (38) which receives the analog (35) or the digital parameter (35') as an input signal and at whose output the control signal (44) which is in an unequivocal functional relationship with the parameter (35, 35') can be taken off.

6. An actuating apparatus as set forth in claim 5 characterized in that the function generator (38) has a differentiation stage (40) which receives the current parameter (35, 35') and the previous parameter (42) called up from the memory (49) as input signals and outputs at its output a differentiation value (42) which represents a measurement in respect of the variation in time of the parameter (35).

7. An actuating apparatus as set forth in claim 6 characterized in that the function generator (38) forms a linearization member (43) which receives the parameter (35, 35') or the differentiation value (42) as an input signal and at its output there can be taken off a control signal (44) which is in a linear relationship with the spacing or the change in the spacing between the two contact regions (29, 29') .

8. An actuating apparatus as set forth in claim 6 characterized in that the function generator (38) has a first threshold stage (47) which receives the parameter (35, 35') as an input signal and at whose output a control signal (44') can be taken off, which is of a first characteristic value when the parameter (35, 35') is greater than or equal to a predetermined parameter threshold value (49) and which is of a second characteristic value when the parameter (35, 35') is less than the predetermined parameter threshold value (49).

9. An actuating apparatus as set forth in claim 6 characterized in that the function generator (38) has a second threshold stage (50) which receives the differentiation value (42) as an input signal and at whose output a control signal (44") can be taken off, which is of a constant first differentiation magnitude when the differentiation value (42) is greater than or equal to a predetermined differentiation value threshold (51) and which is of a second differentiation magnitude when the differentiation value (42) is less than the predetermined differentiation value threshold (51).

10. An actuating apparatus as set forth in claim 6 characterized in that the function generator (38) has a table memory (53) in which there is associated with each digital value of the parameter (35') and/or of the differentiation value (42) a corresponding value of the control signal (44).

11. An actuating apparatus as set forth in claim 14 characterized in that the elastic material is porous.

12. An actuating apparatus as set forth in claim 1 characterized in that the shaped body (61) is in the form of a compressibly shock-

absorbing foot well lining which reduces its electrical resistance upon a compression in respect of volume.

13. An actuating apparatus as set forth in claim 12 characterized in that the shaped body (61) comprises a cellular polyurethane or a cellular vulkollan.

14. An actuating apparatus as set forth in claim 1 characterized in that the shaped body has inclusions, in particular in the form of electrically conductive balls or hollow balls (70) which in particular are also compressible.

15. An actuating apparatus as set forth in one of claims 1, 20, 21 and 22 characterized in that the shaped body (61) has a compression characteristic (80) E = f(S) with regions of different compression in respect of volume, in particular with a region (81) with a low level of compression in respect of volume and a region (82) of high compression in respect of volume, in such a way that a substantially linear relationship between the compression stroke distance S and the mechanical energy E absorbed upon compression exists in the region of the low level of compression in respect of volume and an over-proportionally non-linear relationship between the compression stroke distance S and the mechanical energy E absorbed upon compression exists in the region of the high level of compression in respect of volume.

16. An actuating apparatus as set forth in claim 15 characterized in that the compression characteristic (80) is of a substantially quadratic or exponential configuration in the region (82) of the high level of compression in respect of volume.

17. An actuating apparatus as set forth in claim 1 characterized in that the signal converter (26) is enclosed by an insulating material which is stiff in the region or regions (31, 31') of the first and/or second contact region (29, 29') so that a pressure exerted locally in the stiffened region is applied to the shaped body distributed uniformly over the stiffened region (31, 31'), and is yielding in the other regions.

18. An actuating apparatus as set forth in claim 1 characterized in that in a region (26) which is towards the person actuating the apparatus, the surface of the signal converter is provided with an increased coefficient of friction or a recess which is matched to the sole of the person operating the apparatus, so that same has a hold which is secured to prevent lateral displacement thereof.

19. An actuating apparatus as set forth in claim 1 characterized in that the shaped body comprises at least two shaped body portions (27, 28) which are arranged in conductive mutually superposed relationship in a direction perpendicular to a connecting line between the first contact region (29) and the second contact region (29'), wherein the moduli of elasticity of the materials of the shaped body portions (27, 28) are of different magnitudes, and the shaped body portions (27, 28) are of different extents along the connecting line so that there occurs a spacing of the two contact regions (29, 29'), which is referred to as the pressure point and at which only one of the two shaped body portions (27, 28) is substantially completely compressed.

20. An actuating apparatus as set forth in claim 1 characterized in that there are provided means which detect the derivative of the variation in the electrical resistance and which increase the acceleration of the motor vehicle upon a relatively fast change in the electrical resistance so that a kick-down effect can be produced.

21. An actuating apparatus as set forth in claim 1 characterized in that it is part of a group of a plurality of actuating apparatuses (21, 22, 23) which are integrated into an overall shaped body (24), wherein the actuating surfaces (25) of the three actuating apparatuses (21, 22, 23) are disposed in mutually juxtaposed relationship operably in a surface of the overall shaped body (24) in such a way that the actuating surface (25) of the first actuating apparatus (21) is arranged to the right, the actuating surface of the second actuating apparatus (22) is arranged at the center and the actuating surface of the third actuating apparatus (23) is arranged to the left.

22. An actuating apparatus as set forth in claim 21 characterized in that the actuating group is incorporated in a wall which separates the passenger compartment from the engine compartment, wherein the three actuating surfaces (25) face towards the driver.